

February 2019

WORKING WITH NATURE



“Civil engineering is as broad as the infrastructure and environment in which engineers serve”.

Edmund Hambly - President of the Institution of Civil Engineers.

In 1982 I was responsible for initiating a research project for the Welsh Development Agency (WDA) in which we examined how a low cost approach could be applied to the reclamation of derelict land. This project sprang out of conversations and work done with Professor Bradshaw at Liverpool University. What we examined was how natural recolonisation of industrial wastes actually worked, what lessons could be drawn from nature and how this could be the basis of a low cost approach to land reclamation. Our report entitled '**Working with nature - LOW COST LAND RECLAMATION TECHNIQUES**' became a best seller.

One of many topics discussed by way of an introduction in the report was 'The low-cost reclamation philosophy' which sprang from the fact that whilst most reclamation work could be justified when removing danger or creating new land for development. Where these concerns were not relevant it was difficult to justify the cost when public amenity was the sole reason for doing the work. The introduction highlighted why the work was important;

The addition of low-cost techniques to the range of reclamation options available would widen the scope of returning derelict land to the use of the community for non-intensive afteruses where the financial returns, if any, would not justify the expense of reclamation by conventional civil engineering methods.

The provision of recreation and leisure facilities had been identified as a priority by the WDA.....If public open space and recreation sites can be created at low cost then derelict land could be seen as a potentially valuable asset to the community.

These uses have fewer constraints on topography that would require expensive earthmoving before successful redevelopment. Indeed the varied topography of many areas of derelict land makes them ideal for these afteruses.

Low-cost reclamation.....could play a valuable part in hybrid schemes with only a proportion of the site being set aside for redevelopment.

An important section within the report went on to discuss what lessons could be drawn from nature. We found that many sites, particularly coal tips and slate quarries were being recolonised but many factors influenced the success of natural seed establishment. These factors included but not exclusively nutrient accumulation and cycling, soil pH, presence of heavy metals, seed establishment and nutrient supply.

In designing low cost schemes we advised that focus should be on using existing landforms and vegetation as far as possible, selecting appropriate vegetation types and species, considering the effect of aspect and designing/implementing a long term management programme.

We discussed ways of 'improving the site' by preparing the surface materials using conventional civil engineering techniques such as rolling and ripping, amending the pH of the soil and then vegetation establishment including tree and shrub planting and tree, shrub and grass seeding. This was then followed with an important discussion of management.

In 1993 a second edition was published which included;

A review and critical appraisal of both published and unpublished information on the principles and practice of land reclamation throughout the UK

A survey of naturally colonised derelict land to determine the key processes in ecosystem development.

Field scale trials to evaluate the most promising experimental techniques.

Clearly our understanding of what was possible and what had been achieved during the intervening years had been considerable. We had been following a steep learning curve. Our confidence that civil engineering and natural sciences had been brought together and improved the general effectiveness of land reclamation was evident by the widespread acceptance of the report. At the same time a small but growing awareness was taking shape that using scarce resources to good effect was the right approach too. There proved to be a much greater emphasis on this aspect in the years that followed.

Kind regards

Ivor

Managing Director

Richards, Moorehead & Laing Ltd

In The Times on Saturday 26th January Jonathan Tulloch praised the way in which nature invades brownfield land and creates some of the best ecosystems. His article was entitled '[From brown to green](#)'. I mentioned in last week's newsletter that back in 1982 in a report to the Welsh Development Agency I said that derelict could be viewed as an asset if it was capable of being reclaimed at a low cost for community purposes. We reported in detail of how nature was turning brownfield land into attractive areas filled with self-sown plants and invading fauna and that learning the lessons of how this was achieved was the right way forward. This approach was cheap, simple and technically correct in every sense. Later on people started to talk about the 'sustainable use of resources', the phrase had not been invented when we started work on brownfield land in the early 1970s

Brownfield land is an asset when it is used in this way. Jonathan was commenting on how regularly coppiced railway woodland is so attractive in winter and summer. He talked about the intimacy of winter trees and I can relate to this since our lime trees at home become physically very well known to us when they have lost their leaves in winter. He also comments how nature is forgiving but we have to recognise it. This is an important point because nature works slowly and we need to find 'time to stand and stare' in watching her antics. This is a long held belief of mine and my colleagues and reminds me of [John Locke](#) saying that "*Nature never makes excellent things for mean or no usage*".



[Self sown woodland at Corris slate mine](#)

Our report to [CIRIA](#) on **The use of vegetation in civil engineering** (<https://www.nhbs.com/use-of-vegetation-in-civil-engineering-book>) would have pleased John since its purpose was to focus civil engineers on respecting a material which they had long ignored.

In The Times article Jonathan mentions that it's the regular coppicing of railway woodlands makes them so attractive. This is classic low cost management. The marshalling yards just south of Crewe are worth watching. They are full of pioneer plants and I dare say plenty of fauna too but I don't know whether much coppicing goes on.

I was told that after completing my course at UCL, which included a unit on the history of landscape and land use, that looking out of the train window would never be the same again. It has never been the same, there is just so much to see and ponder about.

Kind regards

Ivor

Managing Director

Richards, Moorehead & Laing Ltd

LOCAL DEVELOPMENT PLAN PROCESSES



Current stages of Local Development Plan processes for Wrexham and Flintshire Council – quick update.

On behalf of clients, we responded to the Wrexham County Borough Council's (WCBC) deposit Local Development Plan (LDP) last year. WCBC's response to all of the representations received on the deposit LDP formed a report to their Full Council Committee meeting held last November. You can view this on:

<http://moderngov.wrexham.gov.uk/ieListDocuments.aspx?Cld=128&Mld=4382&Ver=4>.

Following the recommendations set out in their report, WCBC submitted the LDP to the Welsh Government for examination. As part of this current LDP stage, WCBC are also proposing '*focused changes*' to their LDP to make sure it achieves the key tests of '*soundness*' (ie it is '*fit for purpose*'). As part of our previous response, we highlighted some weakness in the Wrexham LDP in relation to '*soundness*' criteria tests.

The proposed '*focused changes*' are currently the subject of a 6 week public consultation, which ends on the 18 February – further details can be viewed on:

<https://wrexham-consult.objective.co.uk/portal/>

This latest stage of the LDP, along with some controversial, large-scale housing planning applications, are currently making some headline news in/around Wrexham Council, with the Welsh Government increasingly asked to intervene on proposed developments.

For our current work on the proposed A494 Dee Bridge renewal, we're also keeping a close eye on the Flintshire LDP. Of particular interest is the relatively large number and scale of potential sites identified at either end of the bridge, which now form part of the Register for '*Alternative sites*' published last November. Full details are available to view on:

<https://www.flintshire.gov.uk/en/Resident/Planning/Flintshire-Local-Development-Plan.aspx>

Wrexham and Flintshire's LDPs will complete the first round of plans from the north Wales authorities. The review and renewal process for earlier plans has already begun, so if you have an interest in land or developments, watch this space for updates.

Kind regards

Shân

Principal Planning Consultant

Richards, Moorehead & Laing Ltd



I'm feeling edgy

Roadside verges and margins are everywhere, you simply can't escape from them even if you wanted to. Technically, highway verges are strictly defined strips of land but margins come in many shapes and sizes, like the buttons and slopes that I wrote about in November 2015. Margins are the edges of things and in the case of roads are the bits of land left over after the engineer has created his strictly geometrical straights and curves in accordance with guidelines from which he must not depart.



Railway margins are different. Access to these bits of land by train users is extremely limited and is in great contrast to the enjoyment and exploitation of both verges and margins by road users. Perhaps this public use is the key to why the environment alongside highways generates so much interest. This land is public land and can be walked over and sat on which can be a pleasant and sought after physical experience, especially for town dwellers. I remember well a photograph, from the 1950s I think, of a couple quite happily with their folding chairs and table on the side of a busy trunk road within a few feet of passing traffic. Lay byes have become much more common as older winding roads have been 'improved' so picnicking can now be a little more relaxed.

Margins of roads and fields are important too as havens for wildlife and these days much time and thought is given to their constituents and a great deal of effort and expense in managing them, especially in respect of roads. So one must hope that all this effort is worthwhile. I am sure that the slopes alongside railways are important refuges for wildlife too but interest in them for passers-by is fleeting to say the least and their management not a topic of much public concern unless Japanese Knotweed happens to be there.

If roadsides are to welcome and shelter fauna and flora then they must be designed and managed for that purpose over long timescales, all of which costs money. In RML's world aspect, steepness, sight lines, ponds and streams are important considerations for designers and managers to take into account. French drains, manholes, utilities, supports for all kinds of notices as well as grass, trees and shrubs create demands that require attention and a wide range of skills and machines, strimmers must be used with care, they can cause immense damage in the wrong hands.

Constraints and opportunities abound - for example a steep, dry, sunny and infertile slope which poses a challenge to managers can become a habitat rich in wild flowers, specialist plants and insects.

Kind regards

Ivor

Managing Director

Richards, Moorehead & Laing Ltd

THEY'RE AT IT AGAIN!



This hedgerow was surveyed in early May to allow the contractor to make a site access, essential for a critical flood alleviation scheme

in use or being built' and so contractors, developers and landowners must take responsibility for planning and implementing work affecting possible nest sites.

When trees and scrub have to be cleared for building or management work, the usual 'rule of thumb' among contractors is that it should be done before April or after August, but there's an overriding 'rule of thumb' that wildlife doesn't read the book! To avoid possible prosecution, it is better to engage an ecologist to survey trees, hedges and scrubby areas, buildings and any other habitats that could be used for nesting, immediately before work starts. In this very early spring-like weather, RML has already conducted a nesting bird survey on a site where a length of roadside hedge had to be removed to create the access to a social housing development. Planning conditions required that a survey should be carried out if removal was to be between 1st March and 30th August, but we advised our client that he could still be prosecuted if work in February was found to have disturbed nest-building activity.

The survey, carried out in the hours around dawn before early dog-walkers and other activity could deter the birds, showed that there was no nest-building activity in this length of hedgerow.

Supported by this confirmation, the contractor was able to cut the hedge close to the ground in order to excavate the stumps for transplanting. This technique will produce a new hedge more quickly, and with more diversity, than simply planting seedlings from a nursery.

We know that the best plans for work can be thrown off course by external events, so if your project risks missing the winter window for vegetation clearance then all is not lost – ecology survey might confirm that no nesting birds would be affected, or at least identify which specific locations require temporary protection.

Kind regards

Steve

Principal Landscape Manager

Richards, Moorehead & Laing Ltd

At this time of year a young man's thoughts turn to ... the rugby internationals! (what else?) but our feathered friends are at it again. You must have noticed how mild and spring-like the weather has been recently, and this has prompted the birds to start nesting or at least to search for nest sites.

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence 'to take, damage or destroy a nest whilst it is

55 WELL STREET, RUTHIN, DENBIGHSHIRE LL15 1AF

Tel +44(0)1824 704366, Fax +44(0)1824 705450

email: rml@rmlconsult.com web: www.rmlconsult.com

Registered in England No. 1848683 VAT Reg. No. 401 4243 13

